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Autonomous Sensor Networks Participatory Sensing, Opinions and Collective Awareness Wireless Sensor Networks Smart Sensors Networks A Research Note Wireless Sensor Networks - Clustering Approach Information Processing in Sensor Networks Self-Configuring Wireless Transmission and Decentralized Data Processing for Generic Sensor Networks Crowdsourcing: Concepts, Methodologies, Tools, and Applications Mission-Oriented Sensor Networks and Systems: Art and Science Networked Filtering and Fusion in Wireless Sensor Networks Distributed Sensor Networks Cooperative Robots and Sensor Networks 2014 Sensor Network Protocols Topology Control in Wireless Ad Hoc and Sensor Networks Intelligent Sensor Networks Distributed Sensor Networks Handbook On Sensor Networks Algorithms for Sensor Systems Progress in Location-Based Services Applications of Nanomaterials in Sensors and Diagnostics Encyclopedia of Mobile Phone Behavior Wireless Sensor Networks Introduction to Wireless Sensor Networks Distributed Data Aggregation for Sparse Recovery in Wireless Sensor Networks Wireless Sensor Networks Wireless Sensor Networks m-Health Concepts, Applications, Experimentation and Analysis of Wireless Sensor Networks Wireless Sensor Networks Mobile Data Mining and Applications Mobile Point-of-Care Monitors and Diagnostic Device Design Innovation Through Information Systems Wired/Wireless Internet Communications Security Issues for Wireless Sensor Networks New Knowledge in Information Systems and Technologies Efficient Algorithms for Self-organizing Wireless Sensor Networks 7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7) Social Sensing NETWORKING 2007. Ad Hoc and Sensor Networks, Wireless Networks, Next Generation Internet Definitions, Concepts and Scope of Engineering Asset Management

Autonomous Sensor Networks *2012-11-27*

this volume surveys recent research on autonomous sensor networks from the perspective of enabling technologies that support medical environmental and military applications state of the art as well as emerging concepts in wireless sensor networks body area networks and ambient assisted living introduce the reader to the field while subsequent chapters deal in depth with established and related technologies which render their implementation possible these range from smart textiles and printed electronic devices to implanted devices and specialized packaging including the most relevant technological features the last four chapters are devoted to customization implementation difficulties and outlook for these technologies in specific applications

Participatory Sensing, Opinions and Collective Awareness *2016-05-13*

this book introduces and reviews recent advances in the field in a comprehensive and non technical way by focusing on the potential of emerging citizen science and social computation frameworks coupled with the latest theoretical and modeling tools developed by physicists mathematicians computer and social scientists to analyse interpret and visualize complex data sets there is overwhelming evidence that the current organisation of our economies and societies is seriously damaging biological ecosystems and human living conditions in the short term with potentially catastrophic effects in the long term the need to re organise the daily activities with the greatest impact energy consumption transport housing towards a more efficient and sustainable development model has recently been raised in the public debate on several global environmental issues above all this requires the mismatch between global societal and individual needs to be addressed recent advances in information and communication technologies ict can trigger important transitions at the individual and collective level to achieve this aim based on the findings of the collaborative research network everyaware the following developments among the emerging ict technologies are discussed in depth in this volume participatory sensing where ict development is pushed to the level where it can support informed action at the hyperlocal scale providing capabilities for environmental monitoring data aggregation and mining as well as information presentation and sharing gaming social computing and internet mediated collaboration where the will continue to acquire the status of an

infrastructure for social computing allowing users cognitive abilities to be coordinated in online communities and steering the collective action towards predefined goals collective awareness and decision making where the access to both personal and community data collected by users processed with suitable analysis tools and re presented in an appropriate format by usable communication interfaces leads to a bottom up development of collective social strategies

Wireless Sensor Networks *2014-12-10*

this springerbrief evaluates the cooperative effort of sensor nodes to accomplish high level tasks with sensing data processing and communication the metrics of network wide convergence unbiasedness consistency and optimality are discussed through network topology distributed estimation algorithms and consensus strategy systematic analysis reveals that proper deployment of sensor nodes and a small number of low cost relays without sensing function can speed up the information fusion and thus improve the estimation capability of wireless sensor networks wsns this brief also investigates the spatial distribution of sensor nodes and basic scalable estimation algorithms the consensus based estimation capability for a class of relay assisted sensor networks with asymmetric communication topology and the problem of filter design for mobile target tracking over wsns from the system perspective the network topology is closely related to the capability and efficiency of network wide scalable distributed estimation wireless sensor networks distributed consensus estimation is a valuable resource for researchers and professionals working in wireless communications networks and distributed computing advanced level students studying computer science and electrical engineering will also find the content helpful

Smart Sensors Networks 2017-06-14

smart sensors networks communication technologies and intelligent applications explores the latest sensor and sensor networks techniques and applications showing how networked wireless sensors are used to monitor and gather intelligence from our surrounding environment it provides a systematic look at the unique characteristics of wireless sensor networks through their usage in a broad range of areas including healthcare for the elderly energy consumption industrial automation intelligent transportation systems smart homes and cities and more the book shows how sensor networks work and how they are applied to

monitor our surrounding environment it explores the most important aspects of modern sensors technologies providing insights on the newest technologies and the systems needed to operate them readers will find the book to be an entry point for understanding the fundamental differences between the various sensor technologies and their use in for different scenarios indexing the books of this series are submitted to ei compendex and scopus presents numerous specific use cases throughout showing practical applications of concepts contains contributions from leading experts around the globe collects in one place the latest thinking on an emerging topic addresses the security and privacy issues inherent in sensor deployment

A Research Note Wireless Sensor Networks - Clustering Approach 2022-08-24

this book which covers various insights on the wireless sensor networks its working topology and nature with the aspects of clustering in concentric nowadays wireless sensor networks plays a crucial role in sensing and transmitting some important data that to be processed and crucial decisions were made for some specific applications clustering is one of the important technique which helps for various research domains like image processing machine learning and network processing clustering approach is followed for the aggregation of nodes and group them into various groups so that sensor nodes could be filtered and monitored easily all the four chapters deals with the focus on increasing the lifetime of the sensor node of a wireless sensor network and various clustering methodology followed with some clustering algorithm is been described effectively with more number of references this book is been organized in a way that pose the reader to ask themselves about why what how clustering technique is used to aggregation of the sensor nodes and data transmission between the clusters to the base station as the base station is the location for processing data reaching base station in short time as a final note the researchers could use this book as a major research note for performing the research process of wireless sensor networks with respect to lifetime of the sensor node using clustering technique

Information Processing in Sensor Networks

2003-04-10

this book constitutes the refereed proceedings of the second international workshop on information processing in sensor networks ipsn 2003 held in palo alto ca usa in april 2003 the 23 revised full papers and 21 revised poster papers presented were carefully reviewed and selected from 73 submissions among the topics addressed are wireless sensor networks query processing decentralized sensor platforms distributed databases distributed group management sensor network design collaborative signal processing adhoc sensor networks distributed algorithms distributed sensor network control sensor network resource management data service middleware random sensor networks mobile agents target tracking sensor network protocols large scale sensor networks and multicast

Self-Configuring Wireless Transmission and Decentralized Data Processing for Generic Sensor Networks 2004

this report describes the results of the self configuring wireless sensor network effort at cornell university funded under the darpa sensit program the primary goal of this effort was the development of core technologies for large sensor networks that are truly self configuring such networks should not depend on fixed emplacements or predefined topologies control by a centralized authority should be minimized all aspects of network management should be handled in a distributed manner with all network elements sharing a collective responsibility of performance maintenance our technology development fell into three basic areas first we conducted an in depth study of phase transitions and complexity in large wireless networks our goal in this area was the identification of complexity thresholds bounding the computational complexity of management protocols for extremely large networks second we considered the use of game theory in the development of truly distributed network control algorithms finally we developed models for the trade off between energy conservation and robustness in wireless networks

Crowdsourcing: Concepts, Methodologies,

Tools, and Applications *2019-05-03*

with the growth of information technology many new communication channels and platforms have emerged this growth has advanced the work of crowdsourcing allowing individuals and companies in various industries to coordinate efforts on different levels and in different areas providing new and unique sources of knowledge outside organizations enables innovation and shapes competitive advantage crowdsourcing concepts methodologies tools and applications is a collection of innovative research on the methods and applications of crowdsourcing in business operations and management science healthcare education and politics highlighting a range of topics such as crowd computing macrotasking and observational crowdsourcing this multi volume book is ideally designed for business executives professionals policymakers academicians and researchers interested in all aspects of crowdsourcing

Mission-Oriented Sensor Networks and Systems: Art and Science *2019-09-18*

this book presents a broad range of deep learning applications related to vision natural language processing gene expression arbitrary object recognition driverless cars semantic image segmentation deep visual residual abstraction brain computer interfaces big data processing hierarchical deep learning networks as game playing artefacts using regret matching and building gpu accelerated deep learning frameworks deep learning an advanced level of machine learning technique that combines class of learning algorithms with the use of many layers of nonlinear units has gained considerable attention in recent times unlike other books on the market this volume addresses the challenges of deep learning implementation computation time and the complexity of reasoning and modeling different type of data as such it is a valuable and comprehensive resource for engineers researchers graduate students and ph d scholars

Networked Filtering and Fusion in Wireless Sensor Networks *2014-12-20*

by exploiting the synergies among available data information fusion can reduce data traffic filter noisy measurements and make predictions and inferences about a monitored entity networked filtering and fusion in

wireless sensor networks introduces the subject of multi sensor fusion as the method of choice for implementing distributed systems the book examines the state of the art in information fusion it presents the known methods algorithms architectures and models of information fusion and discusses their applicability in the context of wireless sensor networks wsns paying particular attention to the wide range of topics that have been covered in recent literature the text presents the results of a number of typical case studies complete with research supported elements and comprehensive references this teaching oriented volume uses standard scientific terminology conventions and notations throughout it applies recently developed convex optimization theory and highly efficient algorithms in estimation fusion to open up discussion and provide researchers with an ideal starting point for further research on distributed estimation and fusion for wsns the book supplies a cohesive overview of the key results of theory and applications of information fusion related problems in networked systems in a unified framework providing advanced mathematical treatment of fundamental problems with information fusion it will help you broaden your understanding of prospective applications and how to address such problems in practice after reading the book you will gain the understanding required to model parts of dynamic systems and use those models to develop distributed fusion control algorithms that are based on feedback control theory

Distributed Sensor Networks *2013*

this book is the second volume on cooperative robots and sensor networks the primary objective of this book is to provide an up to date reference for cutting edge studies and research trends related to mobile robots and wireless sensor networks and in particular for the coupling between them indeed mobile robots and wireless sensor networks have enabled great potentials and a large space for ubiquitous and pervasive applications robotics and wireless sensor networks have mostly been considered as separate research fields and little work has investigated the marriage between these two technologies however these two technologies share several features enable common cyber physical applications and provide complementary support to each other the book consists of ten chapters organized into four parts the first part of the book presents three chapters related to localization of mobile robots using wireless sensor networks two chapters presented new solutions based extended kalman filter and particle filter for localizing the robots using range measurements with the sensor network the third chapter presents a survey on mobility assisted localization techniques in wireless

sensor networks the second part of the book deals with cooperative robots and sensor networks applications one chapter presents a comprehensive overview of major applications coupling between robots and sensor networks and provides real world examples of their cooperation two other chapters present applications for underwater robots and sensor networks

Cooperative Robots and Sensor Networks 2014 *2014-05-21*

sensor networks continue to grow in importance for modern communication networks communication protocols are at the core of these networks determining their ability to function their capabilities and the environments in which they are able to operate in chapters carefully selected from the popular handbook of sensor networks sensor network protocols supplies a sharply focused reference on protocols security data processing and energy management in communication sensor networks that is ideal for specialists in the field providing a succinct guide to the protocols currently used in advanced sensor networks this book focuses on four main areas routing protocols data gathering and processing security and reliability and energy management the book opens with a survey of the challenges and opportunities facing the field then expert contributors authoritatively discuss routing technologies next generation enabling technologies comparative study of energy efficient protocols for wireless sensor networks techniques to reduce computation and communication energy consumption energy aware routing localized algorithms for sensor networks and much more sensor network protocols details the techniques and technologies that are at the heart of modern sensor networks it is an ideal reference for anyone interested in designing planning or building emerging sensor and communications networks

Sensor Network Protocols 2018-10-08

topology control is fundamental to solving scalability and capacity problems in large scale wireless ad hoc and sensor networks forthcoming wireless multi hop networks such as ad hoc and sensor networks will allow network nodes to control the communication topology by choosing their transmitting ranges briefly topology control tc is the art of co ordinating nodes decisions regarding their transmitting ranges to generate a network with the desired features building an optimized

network topology helps surpass the prevalent scalability and capacity problems topology control in wireless ad hoc and sensor networks makes the case for topology control and provides an exhaustive coverage of tc techniques in wireless ad hoc and sensor networks considering both stationary networks to which most of the existing solutions are tailored and mobile networks the author introduces a new taxonomy of topology control and gives a full explication of the applications and challenges of this important topic topology control in wireless ad hoc and sensor networks defines topology control and explains its necessity considering both stationary and mobile networks describes the most representative tc protocols and their performance covers the critical transmitting range for stationary and mobile networks topology optimization problems such as energy efficiency and distributed topology control discusses implementation and open issues including realistic models and the effect of multi hop data traffic presents a case study on routing protocol design to demonstrate how tc can ease the design of cooperative routing protocols this invaluable text will provide graduate students in computer science electrical and computer engineering applied mathematics and physics researchers in the field of ad hoc networking and professionals in wireless telecoms as well as networking system developers with a single reference resource on topology control

Topology Control in Wireless Ad Hoc and Sensor Networks *2005-08-05*

in the last decade wireless or wired sensor networks have attracted much attention however most designs target general sensor network issues including protocol stack routing mac etc and security issues this book focuses on the close integration of sensing networking and smart signal processing via machine learning based on their world class research the authors present the fundamentals of intelligent sensor networks they cover sensing and sampling distributed signal processing and intelligent signal learning in addition they present cutting edge research results from leading experts

Intelligent Sensor Networks *2012-12-15*

the best selling distributed sensor networks became the definitive guide to understanding this far reaching technology preserving the excellence and accessibility of its predecessor distributed sensor networks second edition once again provides all the fundamentals and applications in one

complete self contained source ideal as a tutorial for students or as research material for engineers the book gives readers up to date practical insight on all aspects of the field this two volume set this second edition has been revised and expanded with over 500 additional pages and more than 300 new illustrations this edition incorporates contributions from many veterans of the darpa iso sensit program as well as new material from distinguished researchers in the field it offers 13 fully revised chapters and 22 new chapters covering new perspectives on information fusion the latest technical developments and current sensor network applications volume 1 image and sensor signal processing includes distributed sensing and signal processing information fusion and power management volume 2 sensor networking and applications includes sensor deployment adaptive tasking self configuration system control and engineering examples

Distributed Sensor Networks *2022-05-30*

sensor networks have many interesting applications with great utility however their actually deployment and realization rely on continuous innovations and solutions to many challenging problems thus sensor networks have recently attracted the attention of many researchers and practitioners the compilation of the handbook on sensor networks will meet the demand of the sensor network community for a comprehensive reference and summary of the current state of the area the handbook on sensor networks is a collection of approximately 40 chapters on sensor network theory and applications the book spans a wide spectrum and includes topics in medium access control routing security and privacy coverage and connectivity modeling and simulations multimedia energy efficiency localization and tracking design and implementation as well as sensor network applications

Handbook On Sensor Networks *2010-08-30*

this book constitutes revised selected papers from the 14th international symposium on algorithms and experiments for wireless sensor networks algosensors 2018 held in helsinki finland in august 2018 the 15 full papers presented in this volume were carefully reviewed and selected from 39 submissions algosensors is an international symposium dedicated to the algorithmic aspects of wireless networks originally focused on sensor networks it now covers algorithmic issues arising in wireless networks of all types of computational entities static or mobile

including sensor networks sensor actuator networks autonomous robots the focus is on the design and analysis of algorithms models of computation and experimental analysis

Algorithms for Sensor Systems 2019-02-14

the book consists of peer reviewed papers from the 9th symposium on location based services lbs which is targeted to researchers industry market operators and students of different backgrounds scientific engineering and humanistic as the research field is developing and changing fast this book follows up on current trends and gives suggestions and guidance to further research this book offers a common ground bringing together various disciplines and practice knowledge experiences plans and ideas on how lbs can and could be improved and on how it will influence both science and society the book comprises front end publications organized into sections on spatial temporal data acquisition processing analysis positioning indoor positioning way finding navigation indoor outdoor smart mobile phone navigation interactions user studies and evaluations innovative lbs systems applications

Progress in Location-Based Services 2013-01-03

recent progress in the synthesis of nanomaterials and our fundamental understanding of their properties has led to significant advances in nanomaterial based gas chemical and biological sensors leading experts around the world highlight the latest findings on a wide range of nanomaterials including nanoparticles quantum dots carbon nanotubes molecularly imprinted nanostructures or plastibodies nanometals dna based structures smart nanomaterials nanoprobes magnetic nanomaterials organic molecules like phthalocyanines and porphyrins and the most amazing novel nanomaterial called graphene various sensing techniques such as nanoscaled electrochemical detection functional nanomaterial amplified optical assays colorimetry fluorescence and electrochemiluminescence as well as biomedical diagnosis applications e g for cancer and bone disease are thoroughly reviewed and explained in detail this volume will provide an invaluable source of information for scientists working in the field of nanomaterial based technology as well as for advanced students in analytical chemistry biochemistry electrochemistry material science micro and nanotechnology

Applications of Nanomaterials in Sensors and Diagnostics *2014-07-08*

the rise of mobile phones has brought about a new era of technological attachment as an increasing number of people rely on their personal mobile devices to conduct their daily activities due to the ubiquitous nature of mobile phones the impact of these devices on human behavior interaction and cognition has become a widely studied topic the encyclopedia of mobile phone behavior is an authoritative source for scholarly research on the use of mobile phones and how these devices are revolutionizing the way individuals learn work and interact with one another featuring exhaustive coverage on a variety of topics relating to mobile phone use behavior and the impact of mobile devices on society and human interaction this multi volume encyclopedia is an essential reference source for students researchers it specialists and professionals seeking current research on the use and impact of mobile technologies on contemporary culture

Encyclopedia of Mobile Phone Behavior *2015-03-31*

this book presents a comprehensive overview of wireless sensor networks wsns with an emphasis on security coverage and localization it offers a structural treatment of wsn building blocks including hardware and protocol architectures and also provides a systems level view of how wsns operate these building blocks will allow readers to program specialized applications and conduct research in advanced topics a brief introductory chapter covers common applications and communication protocols for wsns next the authors review basic mathematical models such as voroni diagrams and delaunay triangulations sensor principles hardware structure and medium access protocols are examined security challenges ranging from defense strategies to network robustness are explored along with quality of service measures finally this book discusses recent developments and future directions in wsn platforms each chapter concludes with classroom tested exercises that reinforce key concepts this book is suitable for researchers and for practitioners in industry advanced level students in electrical engineering and computer science will also find the content helpful as a textbook or reference

Wireless Sensor Networks 2016-11-02

explores real world wireless sensor network development deployment and applications presents state of the art protocols and algorithms includes end of chapter summaries exercises and references for students there are hardware overviews reading links programming examples and tests available at website for instructors there are powerpoint slides and solutions available at website

Introduction to Wireless Sensor Networks 2016-12-14

we consider the approximate sparse recovery problem in wireless sensor networks wsns using compressed sensing compressive sampling cs the goal is to recover the n dimensional data values by querying only m n sensors based on some linear projection of sensor readings to solve this problem a two tiered sampling model is considered and a novel distributed compressive sparse sampling dcss algorithm is proposed based on sparse binary cs measurement matrix in the two tiered sampling model each sensor first samples the environment independently then the fusion center fc acting as a pseudo sensor samples the sensor network to select a subset of sensors m out of n that directly respond to the fc for data recovery purpose the sparse binary matrix is designed using unbalanced expander graph which achieves the state of the art performance for cs schemes this binary matrix can be interpreted as a sensor selection matrix whose fairness is analyzed extensive experiments on both synthetic and real data set show that by querying only the minimum amount of m sensors using the dcss algorithm the cs recovery accuracy can be as good as dense measurement matrices e g gaussian fourier scrambles we also show that the sparse binary measurement matrix works well on compressible data which has the closest recovery result to the known best k term approximation the recovery is robust against noisy measurements the sparsity and binary properties of the measurement matrix contribute to a great extent the reduction of the in network communication cost as well as the computational burden

Distributed Data Aggregation for Sparse

Recovery in Wireless Sensor Networks *2011*

wireless sensor networks presents a comprehensive and tightly organized compilation of chapters that surveys many of the exciting research developments taking place in this field chapters are written by several of the leading researchers exclusively for this book authors address many of the key challenges faced in the design analysis and deployment of wireless sensor networks

Wireless Sensor Networks *2006-12-15*

this book focuses on the principles of wireless sensor networks wsns their applications and their analysis tools with meticulous attention paid to definitions and terminology this book presents the adopted technologies and their manufacturers in detail making wsns tangible for the reader in introductory computer networking books chapter sequencing follows the bottom up or top down architecture of the 7 layer protocol this book addresses subsequent steps in this process both horizontally and vertically thus fostering a clearer and deeper understanding through chapters that elaborate on wsn concepts and issues with such depth this book is intended for a wide audience it is meant to be a helper and motivator for senior undergraduates postgraduates researchers and practitioners it lays out important concepts and wsn relate applications uses appropriate literature to back research and practical issues and focuses on new trends senior undergraduate students can use it to familiarize themselves with conceptual foundations and practical project implementations for graduate students and researchers test beds and simulators provide vital insights into analysis methods and tools for wsns lastly in addition to applications and deployment practitioners will be able to learn more about wsn manufacturers and components within several platforms and test beds

Wireless Sensor Networks *2016-03-02*

addresses recent advances from both the clinical and technological perspectives to provide a comprehensive presentation of m health this book introduces the concept of m health first coined by robert s h istepanian in 2003 the evolution of m health since then how it was transformed from an academic concept to a global healthcare technology phenomenon is discussed afterwards the authors describe in detail the

basics of the three enabling scientific technological elements of m health sensors computing and communications and how each of these key ingredients has evolved and matured over the last decade the book concludes with detailed discussion of the future of m health and presents future directions to potentially shape and transform healthcare services in the coming decades in addition this book discusses the rapid evolution of m health in parallel with the maturing process of its enabling technologies from bio wearable sensors to the wireless and mobile communication technologies from iot to 5g systems and beyond includes clinical examples and current studies particularly in acute and chronic disease management to illustrate some of the relevant medical aspects and clinical applications of m health describes current m health ecosystems and business models covers successful applications and deployment examples of m health in various global health settings particularly in developing countries

m-Health 2016-10-14

the new edition of this popular book has been transformed into a hands on textbook focusing on the principles of wireless sensor networks wsns their applications their protocols and standards and their analysis and test tools a meticulous care has been accorded to the definitions and terminology to make wsns felt and seen the adopted technologies as well as their manufacturers are presented in detail in introductory computer networking books chapters sequencing follows the bottom up or top down architecture of the seven layers protocol this book starts some steps later with chapters ordered based on a topic s significance to the elaboration of wireless sensor networks wsns concepts and issues with such a depth this book is intended for a wide audience it is meant to be a helper and motivator for both the senior undergraduates postgraduates researchers and practitioners concepts and wsns related applications are laid out research and practical issues are backed by appropriate literature and new trends are put under focus for senior undergraduate students it familiarizes readers with conceptual foundations applications and practical project implementations for graduate students and researchers transport layer protocols and cross layering protocols are presented and testbeds and simulators provide a must follow emphasis on the analysis methods and tools for wsns for practitioners besides applications and deployment the manufacturers and components of wsns at several platforms and testbeds are fully explored

Concepts, Applications, Experimentation and Analysis of Wireless Sensor Networks *2020-11-24*

this book presents an in depth study on the recent advances in wireless sensor networks wsns the authors describe the existing wsn applications and discuss the research efforts being undertaken in this field theoretical analysis and factors influencing protocol design are also highlighted the authors explore state of the art protocols for wsn protocol stack in transport routing data link and physical layers moreover the synchronization and localization problems in wsns are investigated along with existing solutions furthermore cross layer solutions are described finally developing areas of wsns including sensor actor networks multimedia sensor networks and wsn applications in underwater and underground environments are explored the book is written in an accessible textbook style and includes problems and solutions to assist learning key features the ultimate guide to recent advances and research into wsns discusses the most important problems and issues that arise when programming and designing wsn systems shows why the unique features of wsns self organization cooperation correlation will enable new applications that will provide the end user with intelligence and a better understanding of the environment provides an overview of the existing evaluation approaches for wsns including physical testbeds and software simulation environments includes examples and learning exercises with a solutions manual supplemented by an accompanying website containing ppt slides wireless sensor networks is an essential textbook for advanced students on courses in wireless communications networking and computer science it will also be of interest to researchers system and chip designers network planners technical mangers and other professionals in these fields

Wireless Sensor Networks *2010-06-10*

this book focuses on mobile data and its applications in the wireless networks of the future several topics form the basis of discussion from a mobile data mining platform for collecting mobile data to mobile data processing and mobile feature discovery usage of mobile data mining is addressed in the context of three applications wireless communication optimization applications of mobile data mining on the cellular networks of the future and how mobile data shapes future cities in the discussion

of wireless communication optimization both licensed and unlicensed spectra are exploited advanced topics include mobile offloading resource sharing user association network selection and network coexistence mathematical tools such as traditional convexappl non convex stochastic processing and game theory are used to find objective solutions discussion of the applications of mobile data mining to cellular networks of the future includes topics such as green communication networks 5g networks and studies of the problems of cell zooming power control sleep wake and energy saving the discussion of mobile data mining in the context of smart cities of the future covers applications in urban planning and environmental monitoring the technologies of deep learning neural networks complex networks and network embedded data mining mobile data mining and applications will be of interest to wireless operators companies governments as well as interested end users

Mobile Data Mining and Applications 2019-05-10

efficient mobile systems that allow for vital sign monitoring and disease diagnosis at the point of care can help combat issues such as rising healthcare costs treatment delays in remote and resource poor areas and the global shortage of skilled medical personnel covering everything from sensors systems and software to integration usability and regulatory challenges mobile point of care monitors and diagnostic device design offers valuable insight into state of the art technologies research and methods for designing personal diagnostic and ambulatory healthcare devices presenting the combined expertise of contributors from various fields this multidisciplinary text gives an overview of the latest mobile health and point of care technologies discusses portable diagnostics devices and sensors including mobile phone based health systems explores lab on chip systems as well as energy efficient solutions for mobile point of care monitors addresses computer vision and signal processing for real time diagnostics considers interface design for lay healthcare providers and home users mobile point of care monitors and diagnostic device design provides important background information about the design process of mobile health and point of care devices using practical examples to illustrate key aspects related to instrumentation information processing and implementation

Mobile Point-of-Care Monitors and Diagnostic Device Design *2014-09-12*

this book presents the current state of research in information systems and digital transformation due to the global trend of digitalization and the impact of the covid 19 pandemic the need for innovative high quality research on information systems is higher than ever in this context the book covers a wide range of topics such as digital innovation business analytics artificial intelligence and it strategy which affect companies individuals and societies this volume gathers the revised and peer reviewed papers on the topic management presented at the international conference on information systems held at the university of duisburg essen in 2021

Innovation Through Information Systems *2021-10-28*

this book constitutes the refereed proceedings of the 7th international conference on wired wireless internet communications wwic 2009 held in enschede the netherlands in may 2008 the 13 revised full papers were carefully reviewed and selected from 39 submissions the papers are organized in topical sessions on energy efficient wsn design routing transport protocols for wsns security and protocol design and mobility handover management

<u>Wired/Wireless Internet Communications</u> *2009-05-05*

wireless sensor networks wsns have attracted high interest over the last few decades in the wireless and mobile computing research community applications of wsns are numerous and growing including indoor deployment scenarios in the home and office to outdoor deployment in an adversary s territory in a tactical background however due to their distributed nature and deployment in remote areas these networks are vulnerable to numerous security threats that can adversely affect their performance this problem is more critical if the network is deployed for some mission critical applications such as in a tactical battlefield random failure of nodes is also very likely in real life deployment scenarios due to resource constraints in the sensor nodes a traditional security mechanism with high overhead of computation and communication is not

feasible in wsns design and implementation of secure wsns is therefore a particularly challenging task this book covers a comprehensive discussion on state of the art security technologies for wsns it identifies various possible attacks at different layers of the communication protocol stack in a typical wsn and presents their possible countermeasures a brief discussion on the future direction of research in wsn security is also included

Security Issues for Wireless Sensor Networks *2022-04-19*

this book includes a selection of articles from the 2019 world conference on information systems and technologies worldcist 19 held from april 16 to 19 at la toja spain worldcist is a global forum for researchers and practitioners to present and discuss recent results and innovations current trends professional experiences and challenges in modern information systems and technologies research together with their technological development and applications the book covers a number of topics including a information and knowledge management b organizational models and information systems c software and systems modeling d software systems architectures applications and tools e multimedia systems and applications f computer networks mobility and pervasive systems g intelligent and decision support systems h big data analytics and applications i human computer interaction j ethics computers security k health informatics l information technologies in education m information technologies in radiocommunications and n technologies for biomedical applications

New Knowledge in Information Systems and Technologies *2019-03-29*

self organization of wireless sensor networks which involves network decomposition into connected clusters is a challenging task because of the limited bandwidth and energy resources available in these networks this book presents a novel approach for message efficient clustering in which nodes allocate local growth budgets to neighbors algorithms that make use of this approach are presented along with an analysis of the message complexity of these algorithms the book also presents a new randomized methodology for designing the timers of cluster initiators this methodology provides a probabilistic guarantee that initiators will not

interfere with each other extensive simulations over different topologies confirm the analytical results and demonstrate that our proposed methodology scales to large networks further applications of the work in other domains are discussed

Efficient Algorithms for Self-organizing Wireless Sensor Networks *2010-12*

this volume presents the proceedings of the 7th international conference on the development of biomedical engineering in vietnam which was held from june 27 29 2018 in ho chi minh city the volume reflects the progress of biomedical engineering and discusses problems and solutions it aims to identify new challenges and shaping future directions for research in biomedical engineering fields including medical instrumentation bioinformatics biomechanics medical imaging drug delivery therapy regenerative medicine and entrepreneurship in medical devices

7th International Conference on the Development of Biomedical Engineering in Vietnam (BME7) 2019-06-05

increasingly human beings are sensors engaging directly with the mobile internet individuals can now share real time experiences at an unprecedented scale social sensing building reliable systems on unreliable data looks at recent advances in the emerging field of social sensing emphasizing the key problem faced by application designers how to extract reliable information from data collected from largely unknown and possibly unreliable sources the book explains how a myriad of societal applications can be derived from this massive amount of data collected and shared by average individuals the title offers theoretical foundations to support emerging data driven cyber physical applications and touches on key issues such as privacy the authors present solutions based on recent research and novel ideas that leverage techniques from cyber physical systems sensor networks machine learning data mining and information fusion offers a unique interdisciplinary perspective bridging social networks big data cyber physical systems and reliability presents novel theoretical foundations for assured social sensing and modeling humans as sensors includes case studies and application examples based on real data sets supplemental material includes sample datasets and fact finding software that implements the main algorithms

described in the book

Social Sensing *2015*

this book constitutes the refereed proceedings of the 6th international ifip tc6 networking conference networking 2007 held in atlanta ga usa in may 2007 the 99 revised full papers and 30 poster papers cover ad hoc and sensor networks wireless networks and the next generation internet

NETWORKING 2007. Ad Hoc and Sensor Networks, Wireless Networks, Next Generation Internet *2007-11-27*

definitions concepts and scope of engineering asset management the first volume in this new review series seeks to minimise ambiguities in the subject matter the ongoing effort to develop guidelines is shaping the future towards the creation of a body of knowledge for the management of engineered physical assets increasingly industry practitioners are looking for strategies and tactics that can be applied to enhance the value creating capacities of new and installed asset systems the new knowledge based economy paradigm provides imperatives to combine various disciplines knowledge areas and skills for effective engineering asset management this volume comprises selected papers from the 1st 2nd and 3rd world congresses on engineering asset management which were convened under the auspices of iseam in collaboration with a number of organisations including cieam australia asset management council australia bindt uk and chinese academy of sciences beijing university of chemical technology china definitions concepts and scope of engineering asset management will be of interest to researchers in engineering innovation and technology management as well as to managers planners and policy makers in both industry and government

Definitions, Concepts and Scope of Engineering Asset Management *2010-11-02*

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